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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,845	09/18/2003	William Berardi	02103-556001 / AABOSW23	8903
26162	7590	01/11/2007	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			CHAU, COREY P	
			ART UNIT	PAPER NUMBER
			2615	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/665,845

Applicant(s)

BERARDI ET AL.

Examiner

Corey P. Chau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/01/2006.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5870484 to Greenberger.

3. Regarding Claim 1, Greenberger discloses a method of electroacoustical transducing comprising

controlling audio electrical signals to be provided to a pair of electroacoustical transducers of an array to achieve directivity and acoustic volume characteristics that are varied with respect to a parameter associated with operation of the array, the controlling of the signals resulting in a change in the radiated acoustic power spectrum of the array as the characteristics are varied (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48), and

compensating for the change in the radiated acoustic power spectrum of the array (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 58, line 39 to column 59, line 47).

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4. Regarding Claim 2, Greenberger discloses the compensating for the change in the acoustic power spectrum comprises maintaining the radiated relative acoustic power spectrum substantially uniform (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

5. Regarding Claim 3, Greenberger discloses the compensating occurs prior to the controlling (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 58, line 39 to column 59, line 47).

6. Regarding Claim 4, Greenberger discloses the change in the acoustic power spectrum resulting from the controlling of the signals is predicted, and the compensating is based on the predicting (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

7. Regarding Claim 5, Greenberger discloses the compensating is based on a volume level selected by a user (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40,

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lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

8. Regarding Claim 6, Greenberger discloses the compensating is based on a signal level detected in the controlled audio electrical signals (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

9. Regarding Claim 7, Greenberger discloses the controlling comprises reducing the amplitude of one of the audio electrical signals for higher acoustic volume levels (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

10. Regarding Claim 8, Greenberger discloses the controlling comprises combining two components of an intermediate electrical signal in selectable proportions (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

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11. Regarding Claim 9, Greenberger discloses the controlling of the audio electrical signals comprises adjusting a level of one of the signals over a limited frequency range (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

12. Regarding Claim 10, Greenberger discloses controlling the audio electrical signals includes processing one of the signals in a high-pass filter and processing the other of the signals in a complementary all-pass filter (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

13. Regarding Claim 11, Greenberger discloses an electroacoustical transducing apparatus comprising

an input terminal to receive an input audio electrical signal (Figs. 2-10, 13, 15-19, 21-22, and 26-29), and

a plurality of electroacoustical transducers in an array (Figs. 2-10, 13, 15-19, 21-22, and 26-29)

circuitry constructed and arranged to generate two related output audio electrical signals from the input audio signal coupled to said electroacoustical transducers of an array, and to achieve predefined directivity and acoustic volume characteristics that are

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varied with respect to a parameter associated with operation of the array and to compensate for a change in acoustic power spectrum of the array that results from the controlling of the signals (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

14. Regarding Claim 12, Greenberger discloses the circuitry comprises a dynamic equalizer (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

15. Regarding Claim 13, Greenberger discloses the dynamic equalizer includes a pair of signal processing paths and a combiner to combine signals that are processed on the two paths (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

16. Regarding Claim 14, Greenberger discloses the circuitry is also constructed and arranged to compensate for the change based on a volume level (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62;

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column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

17. Regarding Claim 15, Greenberger discloses an electroacoustical transducer array comprising,

a source of related electrical signal components (Figs. 2-10, 13, 15-19, 21-22, and 26-29)

a plurality of electroacoustical transducers driven respectively by said related electrical signal components (Figs. 2-10, 13, 15-19, 21-22, and 26-29),

an input terminal to receive an input audio electrical signal (Figs. 2-10, 13, 15-19, 21-22, and 26-29), and

circuitry constructed and arranged to generate two related output audio electrical signals coupled to said electroacoustical transducers of an array, to control the two related output signals to achieve predefined directivity and acoustic volume characteristics that are varied with respect to a parameter associated with operation of the array, and to compensate for a change in radiated acoustic power spectrum of the array that results from the controlling of the signals (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

18. Claim 16 is essentially similar to Claim 12 and is rejected for the reasons stated above apropos to Claim 12.



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19. Claim 17 is essentially similar to Claim 13 and is rejected for the reasons stated above apropos to Claim 13.

20. Regarding Claim 18, Greenberger discloses a second input terminal to carry a signal indicating a volume level for use by the circuitry (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

21. Regarding Claim 19, Greenberger discloses a sound system comprising,  
a source of related electrical signal components (Figs. 2-10, 13, 15-19, 21-22, and 26-29),

a pair of electroacoustical transducer arrays, each of the arrays (Figs. 2-10, 13, 15-19, 21-22, and 26-29) comprising

a plurality of electroacoustical transducers driven respectively by said related electrical signal components (Figs. 2-10, 13, 15-19, 21-22, and 26-29),  
and

an input terminal to receive an input audio electrical signal (Figs. 2-10, 13, 15-19, 21-22, and 26-29); and

circuitry constructed and arranged to generate two related output audio electrical signals coupled to said electroacoustical transducers of an array, to control the two output signals to achieve predefined directivity and acoustic volume characteristics that are varied with respect to a parameter associated with operation of the array, and to

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compensate for a change in acoustic power spectrum of the array that results from the controlling of the signals (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

22. Regarding Claim 20, Greenberger discloses said array comprises first and second closely spaced loudspeaker drivers having their axes angularly displaced by substantially 60 degrees (Figs. 2-10, 13, 15-19, 21-22, and 26-29; column 1, lines 1-32; column 3, line 31 to column 4, line 24; column 37, lines 34-59; column 40, lines 5-48; column 48, lines 41 to column 50, line 62; column 51, line 42 to column 52, line 15; column 55, lines 22-65; column 56, lines 13-23; column 58, line 39 to column 59, line 47).

### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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CPC

  
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